Picture of the Week: Glove boxing

August 7, 2015

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In 2000, the United States and Russia committed to each "permanently dispose" of "no less than or at least" 34 metric tons of weapons-grade plutonium. To help meet this commitment, the Department of Energy (DOE) announced a strategy for the permanent disposition of U.S. surplus weapons-grade plutonium: convert some of the energy stored in the nation's stockpile of surplus plutonium pits into electrical power for homes and businesses by burning it as fuel in existing domestic commercial nuclear reactors. However, the process of dismantling these pits, extracting the plutonium, and then converting into a form suitable for burning in a reactor is no simple task. One part of the process requires the use of airtight gloveboxes which allow radioactive plutonium pits to be safely disassembled from the outside. Working inside a glovebox is challenging, requiring manual dexterity skills that would impress a surgeon. While portions of the process are automated, teams of technicians are still required to manipulate some

precision tools, maintain equipment and move large and small objects back and forth inside a complex maze of scientific apparatus.

Read more: Transforming Pits into Clean Energy, National Security Science Magazine, November, 2012